Office Action Summary	Application No.	Applicant(s)	
	10/673,381	DOSHI ET AL.	
	Examiner	Art Unit	
	Joiya M. Cloud	2444	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05/03/2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/13/2010 and 07/27/2010*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *07/16/2010* .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the communication filed 05/03/2010. Claims 1-24 are PENDING. Applicant's arguments have been considered, but are not persuasive.

IDS

Examiner acknowledges the IDS submitted 07/27/2010 and 04/13/2010.

Allowable Subject Matter

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

A) The Applicant submits that cited references do not teach these elements of claim 1. " In particular, Sinha does not teach element 1 (i.e. "representing, in a network data structure, information associated with a mesh network…, wherein the network data structure comprises, for each link in the network and each node or other link in the network, a representation of a minimum amount of protection bandwidth required to be reserved on said each link to restore service upon failure of said each node or other link,"

As to the above argument, Examiner respectfully disagrees. First Examiner notes that Applicant appears to be arguing that "a network data structure may be represented as a two-dimensional L by (N+L-1) data array that includes information for all the links and nodes of a

network", which includes subject matter not recited in the instant claim language. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). More specifically, no where does the claim language require a representation of a minimum amount of protection bandwidth for all nodes, as the instant claim merely recites "representing…for each link in the network and each node *or* other link in the network…" Therefore, representation of each link and other link in the network anticipates the claim language as claimed. See in Sinha where

B) Sinha does not teach element 2, "determining, using the network and service data structures, whether the new service requires additional protection bandwidth to be reserved on any link in the in the network."

As to the above argument B), Examiner respectfully disagrees. Examiner submits further detailed claim mappings regarding this specific limitation. See Figure 3 and col. 3, lines 53-59 where Sinha clearly discloses where the addition of protection links are determined as required as protection for the working path and such addition of links add path bandwidth units as the created protection path, see col. 4, lines 50-54).

C) Sinha does not teach element 3, "updating the network data structure if any additional protection bandwidth is determined to be required for the new service"

As to the above argument C), Examiner respectfully disagrees. See col. 5, lines 23-30 where Sinha clearly reads on the above disclosed limitation regarding the updating of the network data structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sinha (U.S Patent 6,904,462)** et al. in view of Walrand et al. **(U.S. Patent No. 7,046,655).**

As per claim 1, Sinha discloses the invention substantially as claimed. Sinha teaches representing, in a network data structure, information associated with a mesh network having a plurality of nodes interconnected by a plurality of links **(Abstract, where Sinha discloses a plurality of vectors identifying the links and nodes of the network**), wherein the network data structure comprises, for each link in the network and each node or other link in the network, a representation of a minimum amount of protection bandwidth required to be reserved on said each link to restore service upon failure of said each node or other link **(col. 2, lines 29-49, col. 2, lines 56-col. 3, lines 10 and col. 4, lines 25-35, where existing protection path bandwidth is allocated to a protection links)**; a new working path is represented by a service

data structure comprising an identification of each link and transit node in a primary path for the new working path **(col. 2, lines 66-col. 3, lines 15)**; determining, using the network and service data structures, whether the new working path requires additional protection bandwidth to be reserved on any link in the network **(col. 3 lines 45-60, where it is determined the allocation of protection bandwidth of a new working path against the existing protection bandwidth)**; and updating the network data structure if any additional protection bandwidth is determined to be required for the new working path **(col. 3, lines 54-60, where "new p rotection links are added to protect the defined working path" ;col. 3, lines 15-26 and col. 5, lines 23-30)**.

However, Sinha does not explicitly disclose *receiving a request* for wherein the request is for a new *service*.

Walrand discloses *receiving a request* for wherein the request is for a new *service* *receiving a request* for wherein the request is for a new *service* **(col. 13, lines 37-47)**.

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporate 's Sinha's teachings to the teachings of Walrand, for the purpose initiating a connection for a working path to carry out a service (i.e. a request to switch or reroute to a suitable path in the event of path failure, col. 13, lines 37-45).

As per claim 2, Sinha-Walrand teaches wherein the service data structure further comprises an identification of bandwidth associated with the new service **(col. 2, lines 66-col. 3, lines 15).**

As per claim 3, Sinha-Walrand teaches wherein the network is a virtual-circuit mesh data network that transmits packetized data **(Walrand: col. 3, lines 8-22).**

As per claims 4 and 5, Sinha-Walrand wherein the network data structure is distributed over the network such that at least one node in the network does not have all of the information in the network data structure and wherein each of the nodes in the network has all of the information in the network data structure **(col. 5, lines 24-30)**

As per claim 6, Sinha-Walrand teaches a method further comprising, in response to the new service request, determining a restoration path for the new service in the network using the network data structure **(Sinha: col. 3, lines 15-col. 4, line 10).**

As per claim 7, Sinha-Walrand teaches wherein the data structure is an array of vectors wherein each data structure in the array corresponds to a different link in the network; each vector in the array has a plurality of entries corresponding to the nodes and links in the network **(Sinha: col. 2, lines 65-col. 3, lines 26, where Sinha discloses each link having a vector containing a plurality of vector elements)**; for a first data structure corresponding to a first link, each entry in the first vector corresponding to a node or link identifies the minimum amount of protection bandwidth required to be reserved on the first link to restore service upon failure of the node or other link **(col. 2, lines 29-49, col. 2, lines 56-col. 3, lines 10 and col. 4, lines 25-35, where existing protection path bandwidth is allocated to a protection links)**; and the service data structure is a primary path vector having a plurality of entries corresponding to the nodes and links in the network, wherein each entry of the primary path vectors identifies whether the corresponding node or link is part of the primary path for the new service **(col. 4, lines 19-24).**

As per claim 8, Sinha-Walrand teaches wherein determining whether the new service requires any additional protection bandwidth to be reserved on a link A in the network comprises applying a vector addition operation between the primary path vector corresponding to the new service request and the vector of the array corresponding to the link A to form a result vector service **(Sinha: col. 4, lines 45-58).**, and comparing the maximum value in the result vector with the bandwidth already reserved on the link A to determine whether any additional protection bandwidth is required for the new service **(Sinha-col. 4, lines 66-col. 5, line 9)**.

As per claim 9, Sinha-Walrand teaches wherein the additional protection bandwidth is required and is reserved if any result vector entry is greater than the bandwidth already reserved on the link **(col. 2, lines 65-col. 3, lines 15).**

As per claim 10, Sinha-Walrand teaches wherein the vector addition operation is applied between the primary path vector and each vector in the array corresponding to each different link in a restoration path for the new service **(Sinha: col. 4, lines 45-58).**

As per claim 11, Sinha-Walrand teaches wherein the service data structure is primary path node-link vector V.sub.pnl **(col. 4, lines 25-58).**

As per claim 12, Sinha-Walrand teaches wherein an incremental version of the network data structure is used for transmitting sharing information in order to reduce the amount of data that is transmitted in the network to disseminate the information (**Sinha: col. 2, lines 58-64)**.

As per claim 13-15, Sinha-Walrand teaches wherein transmission control protocol/Internet protocol (TCP/IP) connections are used for the dissemination (Walrand: col. 3, lines 57-63); wherein the compact representation is a node aggregate vector V.sub.na wherein each element of V.sub.na corresponds to a node in the network wherein the element's value is a

function of the maximum of reservation bandwidths reserved on all links incident to the node and wherein the dissemination is accomplished using a link-state routing protocol **(Sinha: col. 4, lines 4—col.5, line 9).**

As per claim 16, Sinha-Walrand teaches wherein a compact version of the network data structure is used to reduce the amount of data that needs to be transmitted in the network to disseminate the information about each link (**Sinha: col. 2, lines 58-64)**.

As per claims 17-19, claims 17-19 lists substantially the same elements as claim 1 and is thus rejected using the same rationale.

As per claim 20, claim 20 is substantially the same as claim 12 and thus rejected using similar rationale.

As per claim 21-23, claims 21-23 are substantially the same as claim 7 and therefore rejected using similar rationale.

As per claim 24, Sinha-Walrand teaches wherein the service data structure is a primary path vector having a plurality of entries corresponding to all the nodes and link in the network wherein each entry of the primary path vector identifies whether the corresponding node or link is or is not part of the primary path for the new service **(col. 3, lines 60-col. 4, line 3).**

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joiya Cloud whose telephone number is 571-270-1146. The examiner can normally be reached Monday to Friday from on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3922.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMC

Art Unit 2444 **July 30, 2010**

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444